

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) An aluminum nitride ceramic base material comprising main constituent elements and sintering agents and produced by sintering with a setter made of a high melting-point permeable metal or ceramic, wherein the surface roughness (Rmax) of the setter is 5 μ m or less, the aluminum nitride ceramic base material having an increment in warp after a single heat treatment at 850°C for one hour of not more than 2.0×10^{-2} μ m/mm and satisfying the following formula:

$$a/b \leq 1.3,$$

where a: the larger of c1 and c2,

b: the smaller of c1 and c2,

c1: the ratio “k” at a main-surface side,

c2: the ratio “k” at the other main-surface side,

$$k = s/m,$$

s: the fluorescent X-ray detected strength of the constituent elements of the sintering agents,

m: the fluorescent X-ray detected strength of the main-constituent elements.

Claims 2 - 3 (Cancelled)

4. (Previously Presented) An aluminum nitride ceramic base material as defined in claim 1, formed by charging bodies into a sintering furnace with a porous setter made of a permeable material that is nonreactive with the constituents of the bodies under sintering conditions and free from softening and deformation in order to govern the balance of movement of the molten constituents of the sintering agents.

5. (Previously Presented) An aluminum nitride ceramic base material as defined in claim 1, wherein atmospheric gas is introduced into a sintering furnace at a flow rate which is reduced at or above a melting point of the sintering agents in order to govern movement of molten sintering agents.